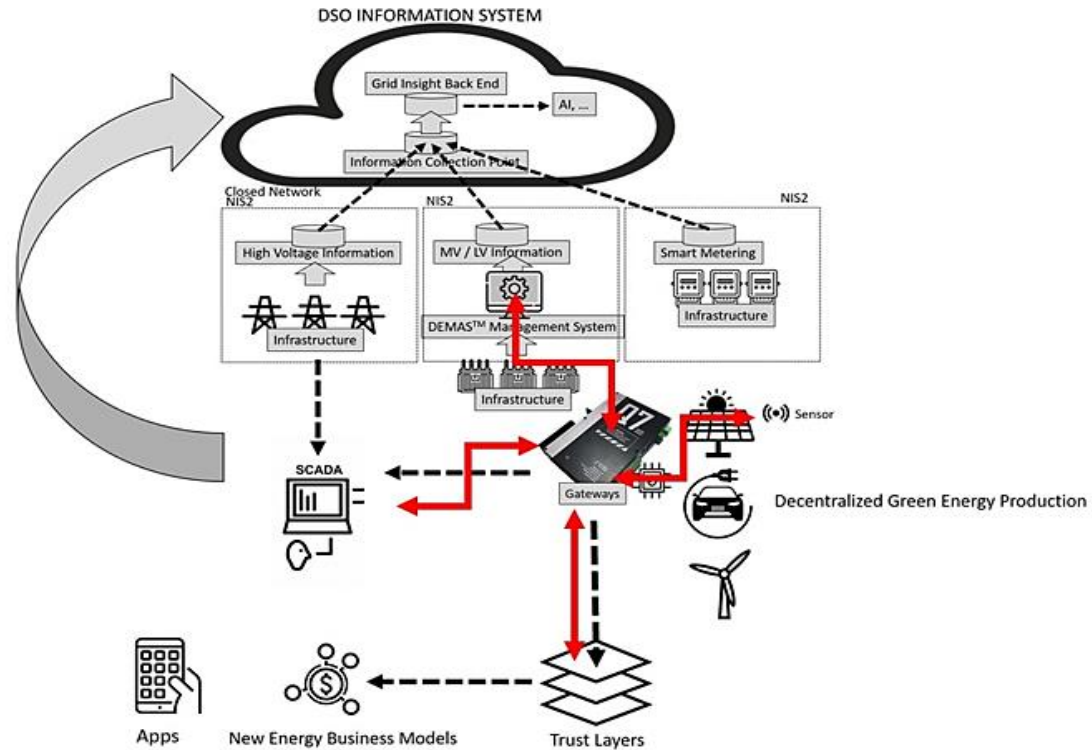


'Power of the Many' – Energy Communities

Tokenization can revolutionize the way energy is traded in the bi-directional energy market by allowing market participants to transfer and trade energy in the form of tokens rather than the traditional continuous flow of energy. This would enable customers to become energy-responsible parties by offering them the ability to purchase energy, such as community renewable energy assets, EV charging, and hot water as a service.

Gateways & Sensors with Trust-Anchoring labeling Energy Data

Bausch Datacom and partner RiTTec are one of the first European manufacturers which will bring a set of tools on the market capable of performing crypto anchoring to label produced energy coming from Solar parks, EV chargers (Vehicle to Grid), Windmills, heat and power coupling meters.



RITTER
TECHNOLOGIE

POWER
OF THE
MANY

SUNIFIED

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**Datacommunication Solutions for
Energy – EV – Solar – Wind – Water**
PSTN - GPRS - 3G - LTE – NB IoT - 5G – LoRa
'A Company in Motion'
Tokenization & Crypto Anchoring for
Decentralized Green Energy Business Models

Q1 2024

DinBox RTU OSM
Light & Full version



DEMAS Management tool

	Lite Version	Full Version
HW:		
Processor System	OSM modules	OSM modules
Processor	Trusted Platform (TPM V2.0)	Trusted Platform (TPM V2.0)
Security		Secure Boot HSM Tamper detection
SD card	1	1
Wireless		
Cellular Communication	4G	4G
Territory/frequencies/bands	World	World
BLE	Wirepass	Wirepass
WiFi	Option	Option
Interfacing		
RS 232	NA	No
USB		1
RS 485	1	1
Ethernet	1	1
Input		
Digital Input	2	4
Analog input	2	4
PT100	2	2
Output		
Digital Output	2	4
Analog Output	2	2
Display		
LED	1	1
Power supply		
AC	yes	Yes
DC	Optional	Optional
Last Gasp	Yes	Yes
Form factor		
Enclosure		
IP	IP65	IP 65
DIN 35	Yes	Option
Metering		
MID Connector		Yes
Power Quality Connector		Yes

DEMAS Operation
The DEMAS management is a Linux operated system that can be installed in the cloud or on premises by customers choice. The system will be responsible for the commissioning of the devices in the field, configuration, firmware uploads and management of the devices in the field. It can manage up to 10.000's of devices.

Configuration
Configuration of network settings, security, communication, protocols and mapping (using a visual tool Node Red) are done remotely making configuration very easy and transparent. The configuration is installed in files and bundled in file collections defining the configuration of the RTU's in the field.

Setup & Commissioning
The commissioning of RTU's can be automated by uploading the config files to the devices in the field (F.I. substations), for large infrastructures up to 48 devices can be configured at the time. Onsite a simple scan of the devices can activate the commissioning.

Administration
Administration is made very easy and complete by using URL's that can give a complete overview of all devices in the field defined by customer, service, function or whatever grouping want to be used.

Security
Regular firmware updates security vulnerabilities following NIS2 and ISO 27001 procedures.

Monitoring
the DEMAS system has monitoring functionalities that can be showed via the open source application Grafana. It allows to view countless parameters of the device as defined by the customer.

Provision of data to 3rd parties

Firmware DB RTU OSM Full
OS Linux
IEC60870-5-104
IEC 62351
IEC 62443
MQTT V5.0
SSH
OTH
HTTP
LDAP
SYSLOG
SNMPV.3
TLS 2.0 (3.0)
VPN Ipsec
Wireguard
Cryptography(ECC, AES)
Hashing(SHA-3)

Basic technology to enable tokenization of energy

In order to generate trusted data for energy production, storage, sharing and trading, this data must be labeled, giving it a stamp that proves authenticity and uniqueness. Bausch Datacom and partners Ritter Technologie and Sunified have created a unique set of tools to allow different new applications in the decentralized green energy production.

Not only for energy sharing and trading but also for improving the quality of production assets, labeling of data can be very useful. A continuous measuring of the efficiency of infrastructures such as solar, windmill parks and energy storage, and labeling this data and sending it to AI or other analysis centers will be a key tool improving the production of decentralized green energy.

Basic elements of the technology are the **Unity** module, capable of measuring powerdata, labeling and sending the data to a gateway over Bluetooth Wirepass and the **DinBox RTU OSM** gateway which will receive the data, crypto anchor it and send it to all possible backends.

